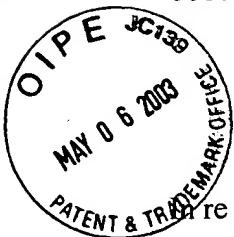


2143

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PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

19

Re Application of:

HIROYUKI FUJIYOSHI

Application No.: 09/516,112

Filed: March 1, 2000

For: INFORMATION PROCESSING

APPARATUS, SYSTEM AND METHOD :

Examiner: A.H. Bilgrami

Art Unit: 2143

May 5, 2003

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Technology Center 2100

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUBMISSION OF SWORN TRANSLATION OF PRIORITY DOCUMENT

Sir:

Submitted herewith is a sworn English translation of Japanese Patent Application No. 11-054626 (referred to herein as "the '626" application"), filed in Japan on March 2, 1999. The '626 application is one of the foreign patent applications from which the present application claims benefit of priority under 35 U.S.C. § 119. Certified copies of the priority applications for the present application were submitted on April 12, 2000.

Claims 1-94 are pending in the present application, of which Claims 1, 10, 20, 41, 50, 60, 93, and 94 are in independent form. In the Office Action dated December 26, 2002, it is stated that Claims 1-94 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,356,937 (Montville et al.).

Applicant submits that Claims 1-7, 10-13, 16-27, 30-34, 37-47, 50-53, 56-67,

69-74, and 77-94, which includes all the independent claims, are supported by the disclosure of the '626 application and are entitled to the benefit of the priority date of March 2, 1999.

Therefore, Montville et al., which has a filing date of July 6, 1999, does not qualify as prior art to those claims.

Support for Claims 1-7, 10-13, 16-27, 30-34, 37-47, 50-53, 56-67, 69-74 and 77-94 of the present application may be found in the disclosure of the '626 application as indicated in the following Correspondence Chart:

Correspondence Chart

| | |
|---------|--|
| Claim 1 | (corresponding to claim 1 of 11-054626) Support for designating means is found in 301 and 302 of Fig 3; support for acquisition means is found in paragraph [0027] and S101-S103 of Fig. 7; and support for generating means is found in S107 and S108 of Fig. 7. |
| Claim 2 | (corresponding to claim 2 of 11-05462) Support for claim 2 is found in S108 of Fig. 7. |
| Claim 3 | (corresponding to claim 3 of 11-054626) Support for claim 3 is found in paragraph [0039]. |
| Claim 4 | (corresponding to claim 4 of 11-054626) Support for claim 4 is found in S101 of Fig. 7. |
| Claim 5 | (corresponding to claim 5 of 11-054626) Support for display means is found in Fig. 3 and paragraph [0015]; and support for the second paragraph of claim 5 is found in paragraphs [0015] and [0016]. |

| | |
|----------|---|
| Claim 6 | (corresponding to claim 6 of 11-054626) Support for claim 6 is found in Fig. 4 and S102 and S103 of Fig. 7. |
| Claim 7 | Support for claim 7 is found in 501 of Fig. 4. |
| Claim 10 | (corresponding to claim 7 of 11-054626) Support for extraction means is found in S701 of Fig. 8; support for access means is found in S702-S707 of Fig. 8; and support for display means is found in S709 and S714 of Fig. 8 and paragraph [0038]. |
| Claim 11 | (corresponding to claim 8 of 11-054626) Support for claim 11 is found in S709 and S714. |
| Claim 12 | (corresponding to claim 9 of 11-054626) Support for the access information is found in Fig. 5; support for the access means is found in S711 and S712 of Fig. 8; and support for the display means is found in S714 of Fig. 8. |
| Claim 13 | Support for claim 13 is found in paragraph [0025]. It is apparent that when an icon indicated in a document folder is designated, a document corresponding to that icon is opened and displayed. |
| Claim 16 | (corresponding to claim 10 of 11-054626) Support for claim 16 is found in S701. |
| Claim 17 | (corresponding to claim 11 of 11-054626) Support for claim 17 is found in S701. |
| Claim 18 | Support for the first paragraph of claim 18 is found in Fig. 5; and support for the second paragraph of claim 18 is found in S705 of Fig. 8 and paragraphs [0034] and [0035]. |


| | |
|--|--|
| Claim 19 | Support for the first paragraph of claim 19 is found in Fig. 5; and support for the second paragraph of claim 19 is found in "password" of Fig. 5. |
| Claim 20 | Support for generating means is found in S101-S108 of Fig. 7; support for communication means is found in S109, S701, and network 205 of Fig. 1; and support for access means is found in S702-S715 of Fig. 8. |
| Claims 21-27 | Please see pending claims 1-7. |
| Claim 30 | Support for claim 30 is found in S109 of Fig. 7. |
| Claims 31-40 | Please see pending claims 10-19. |
| Claims 41-47, 50-53, 56-67, 69-74, 77-80 | Please see pending claims 1-7, 10-13, 16-27, 30-34, 37-40. |
| Claim 81 | Support for claim 81 is found in Fig. 4 (key 501). |
| Claim 82 | Support for claim 82 is found in S106 of Fig. 7. |
| Claim 83 | Support for claim 83 is found in paragraph [0017]. |
| Claims 84-86, 87-89, 90-92 | Please see claims 81-83. |
| Claims 93, 94 | Please see claims 1 and 10 |

For at least the reasons presented above, Applicant submits that the claims of the present application are patentable over Montville et al.

No petition or fee under 37 C.F.R. § 1.136 is believed to be necessary for the present submission. If, however, such a petition is required to have this submission entered and considered, then this paper should be considered such a petition and the Commissioner is authorized to charge the requisite petition fee to Deposit Account 06-1205.

Applicant's undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,


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DECLARATION

I, Toshio Sato, residing at 7th Fl., Shuwa Kioicho Park Bldg., 3-6, Kioicho, Chiyoda-ku, Tokyo 102-0094, Japan, hereby declare that I have a thorough knowledge of Japanese and English languages, and that the attached pages contain a correct translation into English of the application document of Japanese Patent Application No. 11-054626 filed on March 2, 1999 in the name of CANON KABUSHIKI KAISHA.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 17th day of April, 2003.

Toshio Sato

Toshio Sato

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Translation of Japanese Patent Application No. 11-054626

| | | |
|--|--|---|
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| [Number of Claim(s)] | 18 | |
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| [Name] | Yukio Maruyama | |
| [Telephone Number] | 03-5276-3241 | |
| [Detail of Fee(s)] | | |
| [Register Number of Prepayment] | 003458 | |
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| [Classification] | Specification | 1 |
| [Classification] | Drawing(s) | 1 |
| [Classification] | Abstract | 1 |
| [Number of General Power of Attorney] | 9704672 | |
| [Proof Required? Y/N] | Yes | |

[TYPE OF THE DOCUMENT] SPECIFICATION

[TITLE OF THE INVENTION] INFORMATION PROCESSING

APPARATUS, SYSTEM AND METHOD

[CLAIMS]

5 [Claim 1] An information processing apparatus
capable of transmitting electronic mail, comprising:
designating means for designating a desired object
to be attached to electronic mail;

acquisition means for acquiring access information
10 relating to the object designated by said designating
means; and

mail information generation means for incorporating
the access information acquired by said acquisition
means into a part of electronic mail information.

15 [Claim 2] The apparatus according to claim 1,
wherein said mail information generation means generates
an attachment file which includes the access information
acquired by said acquisition means and attaches the
generated attachment file as electronic mail
20 information.

[Claim 3] The apparatus according to claim 1,
wherein said mail information generation means affixes
the access information acquired by said acquisition
means to the main body of electronic mail that is to be
25 transmitted.

[Claim 4] The apparatus according to claim 2 or 3,
wherein the access information includes information

indicating absolute location of the object file which has been designated by said designating means, in a system.

[Claim 5] The apparatus according to any one of
5 claims 1 to 4, wherein said designating means has display means for presenting an at-a-glance display, in a thumbnail or list format, of documents that are present in a specific storage area, and for displaying an icon corresponding to an electronic mail application
10 that is for generating transmission information by electronic mail,

wherein a desired document among the documents in the at-a-glance display is dropped onto said icon, thereby designating the desired object file.

15 [Claim 6] The apparatus according to claim 1, wherein said acquisition means has setting means for allowing a user to set access information via a prescribed user interface.

[Claim 7] An information processing apparatus
20 capable of receiving electronic mail, comprising:

extraction means for extracting access information contained in electronic mail that has been received;

access means for accessing an object based upon the access information extracted by said extraction means;

25 and

display means for presenting a display that corresponds to the object based upon content of the

object accessed by said access means.

[Claim 8] The apparatus according to claim 7,
wherein said display means presents either a thumbnail
display or a list display regarding objects accessed by
5 said access means.

[Claim 9] The apparatus according to claim 7,
wherein the access information contains permission
information indicating whether it is permissible to
access another object present at a storage location to
10 which said object belongs; and

said display means, said access means presents an
at-a-glance display relating to an object present at
said storage location, when the permission information
permits to access another object.

15 [Claim 10] The apparatus according to claim 7,
wherein said extraction means extracts the access
information from a file that has been attached to
electronic mail.

[Claim 11] The apparatus according to claim 7,
20 wherein said extraction means extracts the access
information from the main body of electronic mail.

[Claim 12] An information processing method
capable of transmitting electronic mail, comprising:

a designating step of designating a desired object
25 to be attached to electronic mail;

an acquisition step of acquiring access information
relating to the object designated at the designating

step; and

a mail information generation step of incorporating the access information acquired at the acquisition step into a part of electronic mail information.

5 [Claim 13] An information processing method capable of receiving electronic mail, comprising:

an extraction step of extracting access information contained in electronic mail that has been received;

an access step of accessing an object based upon
10 the access information extracted at the extraction step;
and

a display step of presenting a display that corresponds to the object based upon content of the object accessed at the access step.

15 [Claim 14] An information processing system in which electronic mail can be sent between information processing apparatus, comprising:

designating means for designating a desired object file to be attached to electronic mail;

20 acquisition means for acquiring access information relating to the object file designated by said designating means;

mail information generating means for incorporating the access information acquired by said acquisition
25 means into a part of electronic mail;

transferring means for transferring the electronic mail information generated by said mail information

generating means to a specified information processing apparatus;

extraction means for extracting the access information contained in a received electronic mail;

5 access means for accessing the object based upon the access information extracted by said extraction means;

display means for presenting a display that corresponds to the object based upon content of the object file accessed by said access means.

[Claim 15] The system according to claim 14, wherein the access information includes information which is necessary for said access means to obtain permission of accessing the object.

15 [Claim 16] A control method for an information processing system in which electronic mail can be sent between information processing apparatus, comprising:

a designating step of designating a desired object file to be attached to electronic mail;

20 an acquisition step of acquiring access information relating to the object file designated at the designating step;

a mail information generating step of incorporating the access information acquired at the acquisition step into a part of electronic mail;

a transferring step of transferring the electronic mail information generated at the mail information

generating step to a specified information processing apparatus;

an extraction step of extracting the access information contained in a received electronic mail;

5 an access step of accessing the object based upon the access information extracted at the extraction step;

a display step of presenting a display that corresponds to the object based upon content of the object file accessed at the access step.

10 [Claim 17] A storage medium which stores control program for performing electronic mail transmission by a computer, wherein said control program comprises:

codes of a designating step of designating a desired object to be attached to electronic mail;

15 codes of an acquisition step of acquiring access information relating to the object designated at the designating step; and

codes of a mail information generation step of incorporating the access information acquired at the acquisition step into a part of electronic mail information.

[Claim 18] A storage medium which stores control program for performing electronic mail reception by a computer, wherein said control program comprises:

25 codes of an extraction step of extracting access information contained in electronic mail that has been received;

codes of an access step of accessing an object
based upon the access information extracted at the
extraction step; and

codes of a display step of presenting a display
5 that corresponds to the object based upon content of the
object accessed at the access step.

[DETAILED DESCRIPTION OF THE INVENTION]

[0001]

[FIELD OF THE INVENTION]

10 This invention relates to an information processing
apparatus, method and system for transmitting document
information within a document management system by
electronic mail.

[0002]

15 [PRIOR ART]

In the prior art, when document information in a
document management system is transmitted by an
electronic mail application, the document information
itself or the result of expanding the document into an
20 image having a certain format is transmitted.

[0003]

[PROBLEMS TO BE SOLVED BY THE INVENTION]

However, if the amount of data of the document is
large, a great load is placed upon the electronic mail
25 system. If a user wants to refer an actual document in
the format or state in which it was stored in the
document management system, rather than developed image

data, it is necessary to ascertain the storage location of the document through a different method and the procedure involved is troublesome.

[0004]

5 Furthermore, in a case where the document is referred to in the format in which it was stored in the document management system, there are instances where user registration is necessary in order to access the system in which the document exists. The result is poor
10 operability.

[0005]

 Accordingly, an object of the present invention is to make it possible to transmit specific information such as the storage location of a document and access
15 privilege without transmitting the actual document or a file in which the content has been converted to an image, thereby making it possible to display the document easily on the receiving side without increasing the load upon the electronic mail system.

20 [0006]

 Another object of the present invention is to make it possible to transmit the storage location of a document as the main body of electronic mail so that the document can be displayed easily on the receiving side.

25 [0007]

 Another object of the present invention is to make it possible for a receiving party to gain temporary

access to a document without requiring that the receiving party register as a user with the system in which the document has been stored.

[0008]

5 [MEANS OF SOLVING THE PROBLEMS]

According to the present invention, the foregoing objects are attained by providing an information processing apparatus capable of transmitting electronic mail, comprising:

10 designating means for designating a desired object to be attached to electronic mail;

acquisition means for acquiring access information relating to the object designated by said designating means; and

15 mail information generation means for incorporating the access information acquired by said acquisition means into a part of electronic mail information.

[0009]

According to another aspect of the present
20 invention, the foregoing objects are attained by providing an information processing apparatus capable of receiving electronic mail, comprising:

extraction means for extracting access information contained in electronic mail that has been received;

25 access means for accessing an object based upon the access information extracted by said extraction means; and

display means for presenting a display that corresponds to the object based upon content of the object accessed by said access means.

[0010]

5 According to the present invention, the foregoing objects are attained by providing an information processing system in which electronic mail can be sent between information processing apparatus, comprising:

designating means for designating a desired object
10 file to be attached to electronic mail;

acquisition means for acquiring access information relating to the object file designated by said designating means;

mail information generating means for incorporating
15 the access information acquired by said acquisition means into a part of electronic mail;

transferring means for transferring the electronic mail information generated by said mail information generating means to a specified information processing
20 apparatus;

extraction means for extracting the access information contained in a received electronic mail;

access means for accessing the object based upon the access information extracted by said extraction
25 means;

display means for presenting a display that corresponds to the object based upon content of the

object file accessed by said access means.

[0011]

[PREFERRED EMBODIMENTS]

A preferred embodiment of the present invention
5 will now be described in detail in accordance with the
accompanying drawings.

[0012]

Fig. 1 is a system block diagram illustrating the
configuration of an information processing system to
10 which there is applied a scheme for giving notification
of document storage information according to an
embodiment of the present invention. The information
processing system comprises at least two computers (PC-A
201 and PC-B 202), a database server 203 and an
15 electronic mail server 204. The PCs 201 and 202, which
function as mail clients, can be ordinary personal
computers or workstations. In this embodiment the
database server 203 stores documents and the like to be
transmitted by electronic mail. The electronic mail
20 server 204 stores and distributes electronic mail that
has been transmitted in the system.

[0013]

Fig. 2 is a block diagram showing the details of
construction of a PC and database server in the
25 information processing system which applies the scheme
for giving notification of document storage information
according to this embodiment. A PC 300 corresponds to

the personal computer 201 or 202 in Fig. 1. The PC 300 includes a display unit 301, an input unit 302, a central processing unit 303, an external storage device 304, a memory 305 and a network interface 306. A database server 310 corresponds to the database server 203 in Fig. 1 and includes a network interface 311, a central processing unit 312, a memory 313 and an external storage device 314. The network interfaces 306 and 311 are connected by a network cable.

10 [0014]

Fig. 3 is a diagram showing an overview of a main window for displaying an at-a-glance view of objects in a document management system or image management system which applies a scheme for giving notification of document storage information according to this embodiment.

[0015]

Fig. 3 shows a main window 400. In Fig. 3, objects in a storage area "a" are displayed in a thumbnail format. In this example, there are two objects, namely A and B. Buttons 401 are for selecting whether the format of the display presented in an at-a-glance display area 403 is the thumbnail format or a list format. Buttons 402 are for changing the storage area to be displayed in the at-a-glance view. The at-a-glance display area 403 displays objects. More specifically, this is an area in which objects in the

storage area selected by the buttons 402 are displayed in an at-a-glance view in a format (thumbnail or list) selected by the buttons 401. In Fig. 3, a thumbnail display has been selected. An icon 404 corresponds to
5 an electronic mail application. An object displayed as a thumbnail image or an icon displayed in a list in the at-a-glance display area 403 may be dragged and dropped on the icon 404 of the electronic mail application, thereby making it possible to transmit electronic mail
10 to which information relating to this object has been attached.

[0016]

Fig. 4 is a diagram illustrating an access-key configuration screen displayed when one object displayed
15 in at-a-glance form in Fig. 3 has been dropped on the icon 404 of the electronic mail application. This screen enables the setting of information necessary to access the object and to store the information as an access key. The object shall be referred to as a
20 document below. Hereinafter, in this specification, it will be assumed that the document includes a text file, an image file, etc.

[0017]

The access-key configuration screen 500 shown in
25 Fig. 4 includes a user name 501 that makes it possible to access this system (e.g., a database server in which the applicable document resides). . More specifically, in

addition to users who have already been registered with the system, it is possible to set a special "access-key user". Thus, even a user who has not registered as a user with the database storing the document can, by
5 having possession of an access key that includes "access-key user", refer to the document within the database. If "NONE" is selected in the area of user name 501, user-name and password queries are made when access to the database is attempted, whereby a person
10 who has not registered as a user can be denied access to the database.

[0018]

The following settings can be made in the access-key configuration screen 500.

- 15 - Setting the privilege [to allow only read (reference) or to allow both read and write (update)] granted to the "access-key user" to access the applicable document (502).
- Setting whether or not other documents in the
20 folder containing the document can be displayed when the document is referred to using the access key (503). In a case where "DISPLAY ALL DOCUMENTS" has been checked, both the access privilege set in area 502 is similarly validated with regard to all documents.
- 25 - Setting whether or not a period of validity is to be set for the access key that has been created (504) and setting the period of validity (505).

[0019]

If an OK button 506 is pressed (clicked) after the above-mentioned items have been set, an access-key file is created using the configured content being displayed on the access-key configuration screen 500 and the file is attached to an electronic mail file. If a cancel button 507 is clicked, then processing is suspended without the creation of access-key file.

[0020]

Fig. 5 is a diagram illustrating an access-key format prior to encryption generated based upon content configured by the access-key configuration screen shown in Fig. 4. Numeral 510 in Fig. 5 denotes the access-key format prior to encryption. Since the access key usually is encrypted, it cannot be referred to or edited directly by a text editor.

[0021]

In Fig. 5, "ABSOLUTE LOCATION OF DOCUMENT" is where the absolute location of a dropped document in the database system is set. "USER NAME" is either "ACCESS-KEY USER" or "NONE". "PASSWORD" is where a password established by the database system is set only in a case where an access-key user has been set. "ACCESS PRIVILEGE" is set only in a case of "ACCESS-KEY USER". In this example, either "READ/WRITE" or "READ" is set. In "SAME-FOLDER ALL-DOCUMENT DISPLAY FLAG", a value specified using the box 503 of Fig. 4 is set. "KEY-FILE

VALIDITY DATE" is where the content set in area 505 is saved only in a case where the check box area 504 of Fig. 4 is checked.

[0022]

5 Fig. 6 includes diagrams useful in describing examples of screen displays, as well as the operation thereof, in a case where a received access key is used in the scheme for giving notification of document storage information according to this embodiment.

10 [0023]

 In Fig. 6, numeral 600 shows a main window in which an at-a-glance view of documents in a storage area Z is displayed in thumbnail form. Here one document (C) is being displayed in an at-a-glance display area 601.

15 [0024]

 Numeral 610 shows a main window of the electronic mail application, and indicates an overview of a main window displayed by the electronic mail application. As in the manner of a window of an ordinary electronic mail application, the window 610 is divided into a mail header area 611 which displays a mail header, a mail body area 612 which displays the body of mail, and an attachment data area 613 which indicates attachment data. An icon 614 corresponds to an access-key file attached to this electronic mail.

[0025]

 If the icon 614 corresponding to the access-key

file that has been attached to the received mail is dragged and dropped on the thumbnail image display area 601, the database is accessed based upon the information that has been saved in this access-key file. The

5 Document A stored in the storage area α and the document B, which is contained in the same folder, are being displayed in the main window indicated at 620 in Fig. 6.

[0026]

10 It should be noted that the electronic mail system and electronic mail application being employed in this system are a well-known system and application.

[0027]

Processing according to this embodiment will be
15 described next. Fig. 7 is a flowchart useful in describing processing for transmitting an access key according to this embodiment. The flowchart of Fig. 7 will be referred to in order to describe processing executed by the central processing unit 303 of this
20 system for creating an access-key file and for attaching the created access-key file to electronic mail in a case where a document is dropped onto the icon of the electronic mail application. It will be assumed in this embodiment that the user of the PC-A 201 attaches
25 document information in the database server 203 to electronic mail and sends this electronic mail to the user of the PC-B 202, that the electronic mail in such

case is accumulated in the electronic mail server 204 and that the electronic mail server 204 notifies the PC-B 202 of the fact the electronic mail arrived.

[0028]

5 First, at step S101 in Fig. 7, the absolute location of a specified document is acquired through the central processing unit 312 of the database server 310 via the network interfaces 306 and 311. Next, at step S102, the privilege to access this document is acquired
10 at step S102 in a manner similar to that of step S101. Then, at step S103, the privilege to access the folder containing this document is acquired through a similar procedure.

[0029]

15 This is followed by step S104, at which the access-key configuration screen 500 is displayed to allow the user to enter the conditions for creation of the access key. It should be noted that the access privilege 502 is restricted so as not to be less stringent than the
20 conditions acquired at step S102. For example, if the document access privilege acquired at step S102 is only "READ", then "READ/WRITE" in access privilege area 502 is dimmed beforehand to make the selection thereof impossible. Similarly, if the folder access privilege
25 acquired at step S103 is "DISPLAY APPLICABLE DOCUMENT ONLY", then the check box of area 503 is dimmed beforehand to make selection thereof impossible.

[0030]

This is followed by step S105, at which it is determined whether "ACCESS-KEY USER" has been specified as the user name in area 501 of Fig. 4. If the decision is "NO", then control proceeds to step S107. If, on the other hand, it is found at step S105 that "ACCESS-KEY USER" has been specified as the user name, control proceeds to step S106. Here the password of "ACCESS-KEY USER" is acquired through the central processing unit 312 of database server 310.

[0031]

An access-key file of the kind shown in Fig. 5 is created at step S107 based upon the information obtained above and the file is subjected to compression processing. The compressed access-key file is attached to the electronic mail application at step S108 and the electronic mail is transmitted at step S109. It should be noted that the operation at step S109 may be executed on the side of the electronic mail application.

[0032]

Thus, an access-key file corresponding to a desired document is transmitted by electronic mail.

[0033]

Described next with reference to Fig. 8 will be document display processing executed by the central processing unit 303 of this system in a case where, as shown in Fig. 6, the icon 614 corresponding to the

access-key file has been dropped on the at-a-glance display area 601 from the attachment data area 613 of the electronic mail application at the apparatus on the side that receives the electronic mail. Fig. 8 is a flowchart illustrating document display processing based upon the access key. In this example, the processing described is that executed when electronic mail that has been transmitted by the user of the PC-A 201 is stored in the electronic mail server 203, the electronic mail server 203 notifies the user of the PC-B 202 that there is incoming electronic mail, the user of the PC-B 202 opens this electronic mail and displays the document in accordance with the access key.

[0034]

The compressed access-key file corresponding to the icon 614 is uncompressed, the access content (access information) that has been saved in this file is acquired and the content is stored in memory 305 at step S701. This is followed by step S702, at which it is determined whether the date of operation falls within the period indicated by "KEY-FILE VALIDITY DATE" in the access content. If the date of operation falls outside this period, then error message is displayed at step S710 and processing is terminated. If it is determined at step S702 that the date of operation falls within the period of validity, then it is determined at step S703 whether the user name is contained in the access

content. If the access content does not have the user name, this means that the document can be referred to only by a registered user. At step S704, therefore, a display for entering the user name and password is
5 displayed to allow the user to set the same.

[0035]

This is followed by step S705, at which log-in to the database is performed based upon the content that has been saved in the access key and the content that
10 has been entered at step S704. Next, it is determined at step S706 whether log-in succeeded. If log-in failed, an error message is displayed at step S710 and processing is terminated. If it is determined at step S706 that log-in succeeded, the specified document is
15 read in at step S707 in accordance with the access content. It is then determined at step S708 whether read-in succeeded. If it is determined that read-in failed, an error message is displayed at step S710 and the processing is terminated.

20 [0036]

If it is determined at step S708 that read-in succeeded, then control proceeds to step S709. In step S709, if the method of presenting the display in the main window is in accordance with the thumbnail format,
25 a thumbnail image of the document is displayed in the at-a-glance display area 601. If the method of presenting the display in the main window is in

accordance with the list format, the content of a list is displayed in the at-a-glance display area 601. The thumbnail image (or item in the list) corresponding to the document is enclosed by a red border.

5 [0037]

It is determined at step S711 whether "DISPLAY ALL DOCUMENTS CONTAINED IN SAME FOLDER" has been set in the access content. If it has not been set, processing is terminated. If it is determined at step S711 that

10 "DISPLAY ALL DOCUMENTS CONTAINED IN SAME FOLDER" has been set, then the next document in the same folder is read in at step S712. It is determined at step S713 whether read-in succeeded and, if failure is the decision, then step S714 is skipped and the control

15 proceeds to step S715. If the decision rendered at step S713 is that read-in succeeded, then the document is displayed at step S714 in accordance with the display format. This is followed by step S715, at which it is determined whether all documents in the same folder have

20 been read in. Processing is terminated if it is determined that all documents have been read in. If it is determined at step S715 that all documents have not been read in, processing from step S712 onward is repeated.

25 [0038]

In accordance with the above embodiment, as described above, only information such as the storage

location of a document or the access privilege can be transmitted as an access key by electronic mail to another person without transmitting the actual document or a file that has been converted to an image, whereby
5 it becomes possible to display, in a simple manner, the stored document based upon the access key that has been received.

[0039]

Further, only the storage location (text data) of a
10 document can be transmitted as the main body of electronic mail to another person, and the stored document can be acquired and displayed in a simple manner based upon the storage location that has been received.

15 [0040]

Furthermore, even if a person is not registered as a user with a database in which a document has been stored, it is possible to access the document through an access-key user that has been assigned to an access key.

20 [0041]

The foregoing embodiment describes an operation performed in a thumbnail display area. However, if a similar operation is performed in a list display area, similar results will be displayed based upon the list
25 display.

[0042]

It goes without saying that the object of the

invention is attained by supplying a storage medium storing the program codes of the software for performing the functions of the foregoing embodiment to a system or an apparatus, reading the program codes with a computer
5 (e.g., a CPU or MPU) of the system or apparatus from the storage medium, and then executing the program codes.

[0043]

In this case, the program codes read from the storage medium implement the functions of the
10 embodiment, and the storage medium storing the program codes constitutes the invention. By reading the program into the system or apparatus from the storage medium, the system or apparatus will operate in accordance with a predetermined method.

15 [0044]

Further, the storage medium for supplying the program code can employ a floppy disk, hard disk, optical disk, magneto-optical disk, CD-ROM, CD-R, magnetic tape, non-volatile type memory card or ROM.

20 [0045]

Furthermore, besides the case where the aforesaid functions according to the embodiments are implemented by executing the program codes read by a computer, it goes without saying that the present invention covers a
25 case where an operating system or the like running on the computer performs a part of or the entire process in accordance with the designation of program codes and

implements the functions according to the embodiments.

[0046]

It goes without saying that the present invention further covers a case where, after the program codes
5 read from the storage medium are written in a function expansion board inserted into the computer or in a memory provided in a function expansion unit connected to the computer, a CPU or the like contained in the function expansion board or function expansion unit
10 performs a part of or the entire process in accordance with the designation of program codes and implements the function of the above embodiment.

[0047]

In a case where the present invention is applied to
15 the storage medium, program code corresponding to the flowcharts described earlier in Figs. 7 and 8 is stored on this storage medium.

[0048]

[EFFECTS OF THE INVENTION]

20 Thus, in accordance with the present invention, as described above, it is possible to transmit access information such as the storage location and access privilege of a document without transmitting the actual document or a file in which the document has been
25 converted to an image as the access-key file by using the electronic mail, thereby making it possible to display the document easily on the receiving side

without increasing the load upon the electronic mail system.

[0049]

Further, in accordance with the present invention,
5 it is possible to transmit the storage location of a document as the main body of electronic mail so that the document can be displayed easily on the receiving side.

[0050]

Further, in accordance with the present invention,
10 it is possible for a receiving party to gain temporary access to a document without requiring that the receiving party register as a user with the system in which the document has been stored.

[BRIEF DESCRIPTION OF THE DRAWINGS]

15 [Fig. 1]

Fig. 1 is a system block diagram illustrating the configuration of an information processing system to which there is applied a scheme for giving notification of document storage information according to an
20 embodiment of the present invention.

[Fig. 2]

Fig. 2 is a block diagram showing the details of construction of a PC and database server in the information processing system which applies the scheme
25 for giving notification of document storage information according to this embodiment.

[Fig. 3]

Fig. 3 is a diagram showing an overview of a main window for displaying an at-a-glance view of objects in a document management system or image management system which applies a scheme for giving notification of document storage information according to this embodiment of the present invention.

[Fig. 4]

Numerical 500 illustrates an access-key configuration screen.

10 [Fig. 5]

Fig. 5 is a diagram illustrating an access-key format, prior to encryption, generated based upon content configured by the access-key configuration screen shown in Fig. 4.

15 [Fig. 6]

Fig. 6 shows diagrams useful in describing examples of screen displays, as well as the operation thereof, in a case where a received access key is used in the scheme for giving notification of document storage information according to this embodiment.

[Fig. 7]

Fig. 7 is a flowchart useful in describing processing for transmitting an access key according to this embodiment.

25 [Fig. 8]

Fig. 8 shows a flowchart illustrating document display processing that is based upon an access key.

[TYPE OF THE DOCUMENT] ABSTRACT

[ABSTRACT]

[PROBLEMS] To make possible to send access information
of a document by electronic mail without transmitting
5 the actual document or a file in which the content has
been converted to an image.

[MEANS FOR SOLVING THE PROBLEMS] When a desired
document file to be attached to electronic mail is
designated, in steps S101 to S103, access information
10 relating to the designated document file, e.g., access
information relating to the location of the document and
privilege to access the document, is acquired. In step
S104, the access information is set by a user through a
prescribed user interface. An attachment file which
15 includes this access information is generated in step
S108 and electronic mail to which the generated
attachment file has been attached is transmitted in step
S109.

[SELECTED DRAWINGS] Fig. 7

20

【書類名】 図面

{ TYPE OF DOCUMENT } DRAWINGS

【図 1】

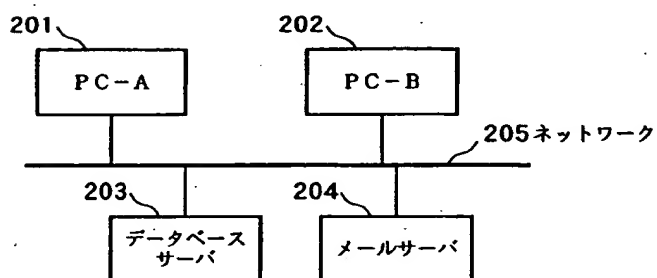


FIG. 1

203 DATABASE SERVER

204 MAIL SERVER

205 NETWORK

【図 2】

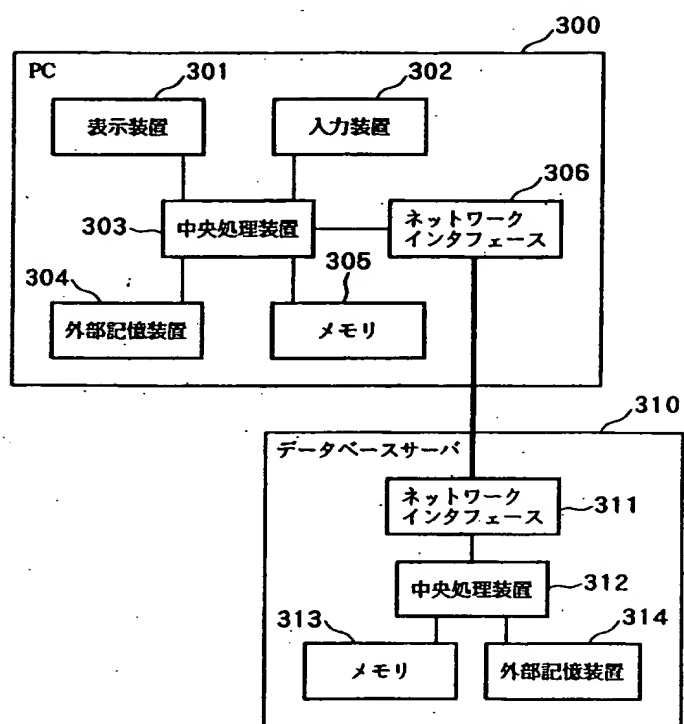


FIG. 2

- 301 DISPLAY UNIT
- 302 INPUT DEVICE
- 303 CENTRAL PROCESSING UNIT
- 304 EXTERNAL STORAGE DEVICE
- 305 MEMORY
- 306 NETWORK INTERFACE
- 310 DATABASE SERVER
- 311 NETWORK INTERFACE
- 312 CENTRAL PROCESSING UNIT
- 313 MEMORY
- 314 EXTERNAL STORAGE DEVICE

【図3】

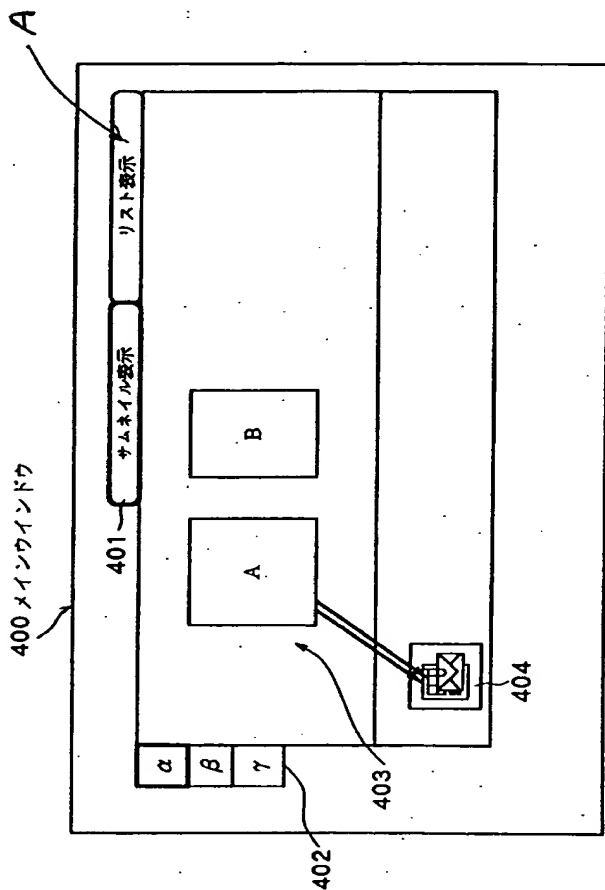


FIG. 3

400 MAIN WINDOW
401 THUMBNAIL DISPLAY
A LIST DISPLAY

【図 4】

500 アクセスキー設定画面

A ユーザ名 501
B アクセスキーユーザ
C なし

D アクセス権 502
E 読み書き
F 読み

506 OK
507 キャンセル

503 ☐ 同一フォルダ内全ドキュメント表示
504 ☐ 有効期限あり
505 ☐ 年 ☐ 月 ☐ 日から ☐ 年 ☐ 月 ☐ 日まで有効

【図 5】

510 暗号化前のアクセスキー・フォーマット

A ドキュメントの絶対位置
B ユーザ名
C パスワード
D アクセス権
E 同一フォルダ内全ドキュメント表示フラグ
F キーファイル有効日付

FIG. 5

- 510 ACCESS-KEY FORMAT PRIOR TO ENCRYPTION
- A ABSOLUTE POSITION TO DOCUMENT
- B USER NAME
- C PASSWORD
- D ACCESS PRIVILEGE
- E SAME-FOLDER ALL-DOCUMENTS DISPLAY FLAG
- F KEY-FILE VALIDITY DATE

FIG. 4

- 500 ACCESS-KEY CONFIGURATION SCREEN
- 503 ALLOW ACCESS TO ALL VERSIONS OF APPLICABLE DOCUMENT
- 504 VALID FOR SET PERIOD
- 505 VALID FROM _YEAR _MONTH _DATE TO _YEAR _MONTH _DATE
- 507 CANCEL
- A USER NAME
- B ACCESS-KEY USER
- C NONE
- D ACCESS PRIVILEGE
- E READ/WRITE
- F READ

【図6】

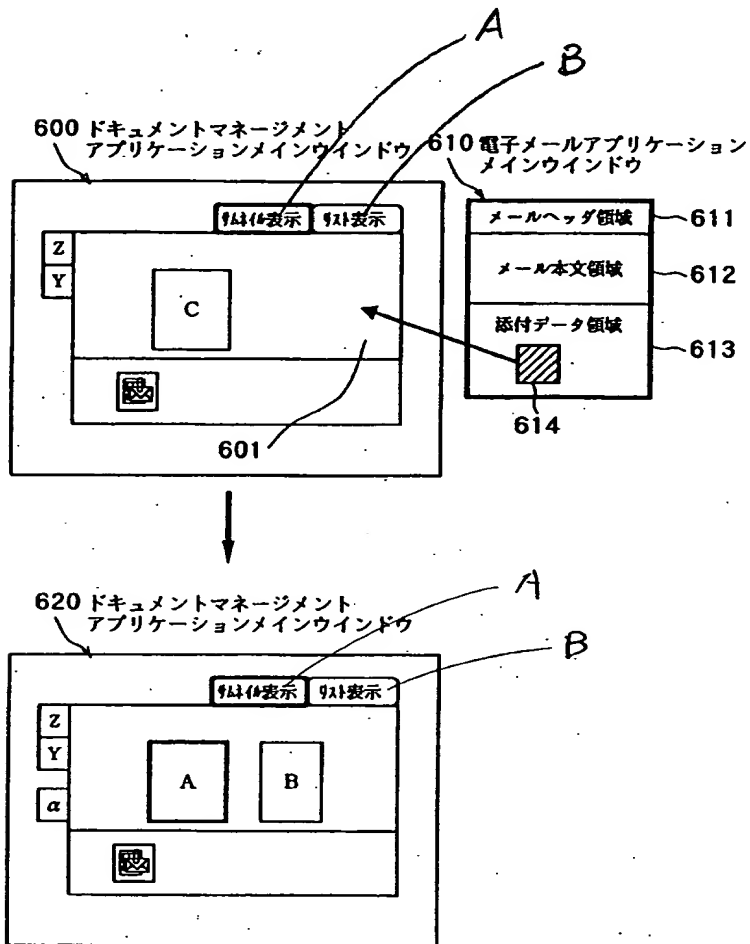


FIG. 6

- 600 MAIN WINDOW OF DOCUMENT MANAGEMENT APPLICATION
- 610 MAIN WINDOW OF ELECTRONIC MAIL APPLICATION
- 611 MAIL HEADER AREA
- 612 MAIN BODY AREA
- 613 ATTACHMENT DATA AREA
- 620 MAIN WINDOW OF DOCUMENT MANAGEMENT APPLICATION
- A THUMBNAIL DISPLAY
- B LIST DISPLAY

【図7】

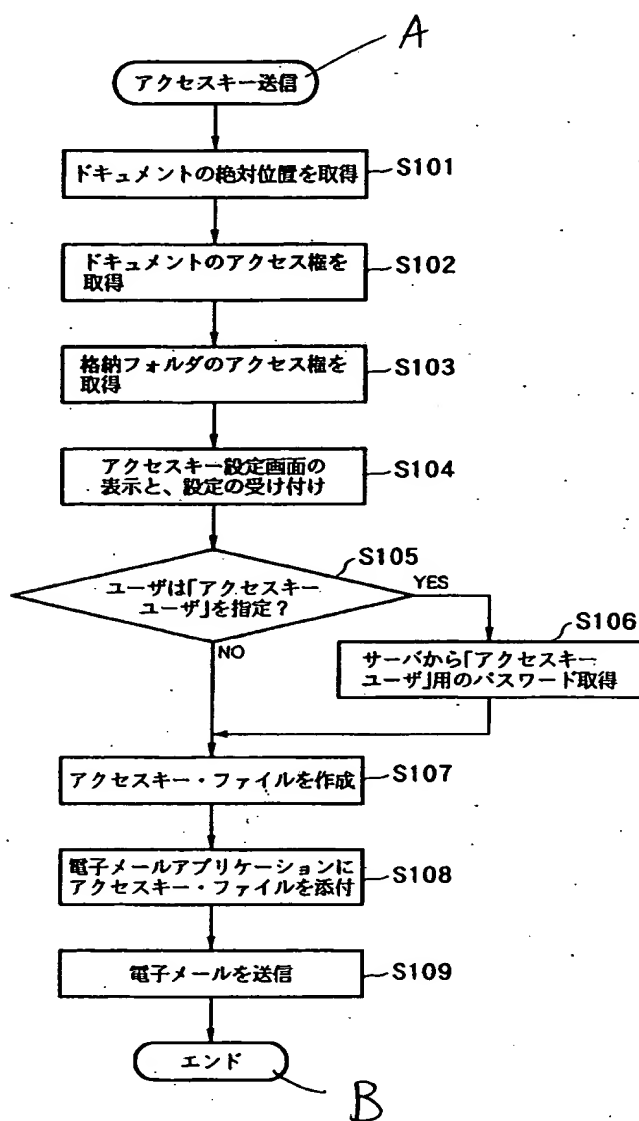


FIG. 7

S101 ACQUIRE ABSOLUTE POSITION OF DOCUMENT

S102 ACQUIRE DOCUMENT ACCESS PRIVILEGE

S103 ACQUIRE FOLDER ACCESS PRIVILEGE

S104 DISPLAY ACCESS-KEY CONFIGURATION SCREEN AND ACCEPT SETTINGS

S105 HAS USER SPECIFIED "ACCESS-KEY USER"?

S106 ACQUIRE PASSWORD FOR "ACCESS-KEY USER" FROM SERVER

S107 CREATE ACCESS-KEY FILE

S108 ATTACH ACCESS-KEY FILE TO ELECTRONIC MAIL APPLICATION

S109 TRANSMIT ELECTRONIC MAIL

A TRANSMIT ACCESS-KEY

B END

【図8】

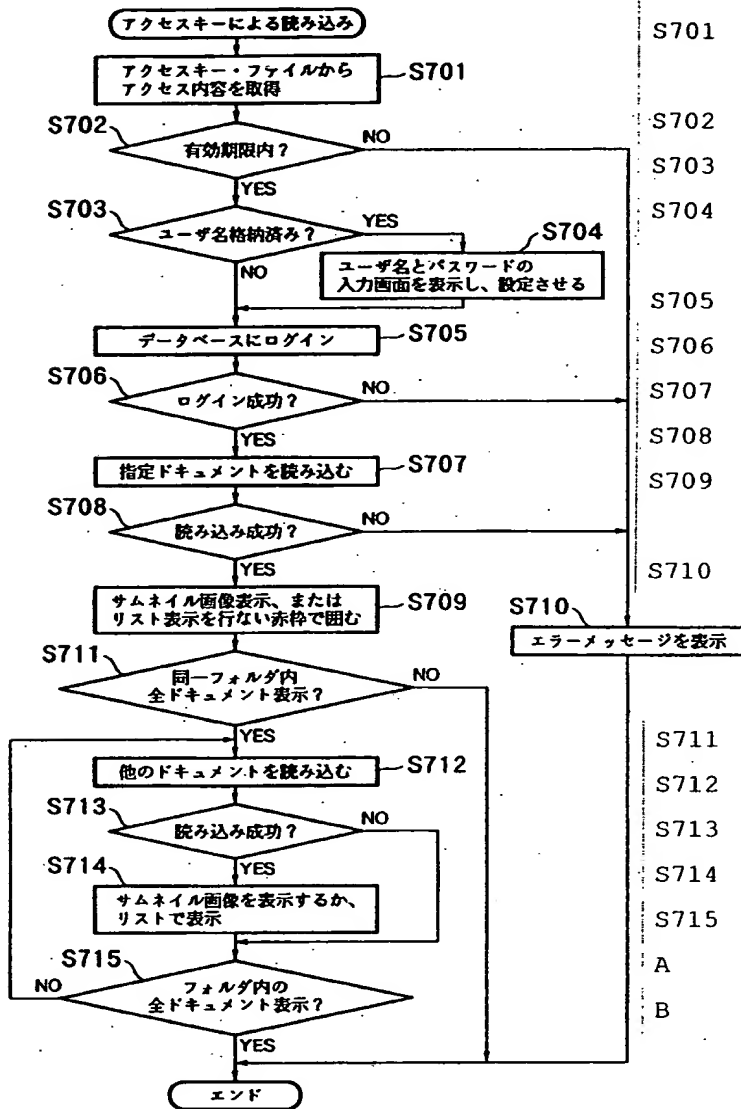


FIG. 8

S701 ACQUIRE ACCESS CONTENT FROM ACCESS-KEY
FILE

S702 STILL VALID?

S703 HAS USER NAME STORED?

S704 DISPLAY SCREEN FOR ENTERING USER NAME
AND PASSWORD AND ALLOW ENTRY THEREOF

S705 LOG-IN TO DATABASE

S706 LOG-IN SUCCESSFUL?

S707 READ IN SPECIFIED DOCUMENT

S708 READ-IN SUCCESSFUL?

S709 DISPLAY THUMBNAIL IMAGE, OR DISPLAY LIST
AND ENCLOSE BY RED COLOR

S710 DISPLAY ERROR MESSAGE

S711 DISPLAY ALL DOCUMENTS IN SAME FOLDER?

S712 READ IN OTHER DOCUMENT

S713 READ-IN SUCCESSFUL?

S714 DISPLAY THUMBNAIL IMAGE OR DISPLAY LIST

S715 DISPLAY ALL DOCUMENTS IN FOLDER?

A READ IN BASED UPON ACCESS KEY

B END